

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) An isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is ~~dependent on the presence of a sequence~~ in the V1 loop.

2-9. (Canceled)

10. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said antibody or antigen binding portion thereof has HIV-1 SF162 neutralizing activity.

11. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V1 domain of HIV-1 SF162 gp120.

12. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 10, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V1 domain of HIV-1 SF162 gp120.

13. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said antibody binds to a peptide consisting of SEQ ID NO: 3.

14. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 13, wherein said antibody does not bind to a peptide consisting of SEQ ID NO: 2.

15. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 10, wherein said HIV-1_{SF162} neutralizing activity is approximately as strong as the HIV-1_{SF162} neutralizing activity of human monoclonal antibody selected from the group consisting of 45D1/B7, secreted by a hybridoma designated by ATCC Accession Number PTA-3002, 58E1/B3, secreted by a hybridoma designated by ATCC Accession Number PTA-3003 and 64B9/A6, secreted by a hybridoma designated by ATCC Accession Number PTA-3004.

16. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein the human antibody is a human monoclonal antibody.

17-18. (Canceled)

19. (Original) A hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003) and cell line 64B9/A6 (ATCC Accession Number PTA-3004).

20. (Original) The human monoclonal antibody produced by a hybridoma cell line according to claim 19, or an antigen-binding portion thereof.

21. (Canceled)

22. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said human antibody comprises a heavy chain CDR1, CDR2 and CDR3 from the antibody selected from the group consisting of:

- a) a human monoclonal antibody produced by a hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003) and cell line 64B9/A6 (ATCC Accession Number PTA-3004);
- b) a human antibody produced by the hybridoma cell line designated 8.22.2 and having ATCC Accession Number PTA-4007; and
- c) a human antibody produced by a hybridoma cell line selected from the group consisting of: cell line 8.27.3 (ATCC Accession Number PTA-3009) and cell line 8E11/A8 (ATCC Accession Number PTA-4012).

23. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said human antibody comprises a heavy chain of the human antibody according to claim 20.

24. (Original) A nucleic acid molecule comprising a nucleotide sequence that encodes the heavy chain of the antibody according to claim 20.

25. (Original) A nucleic acid molecule comprising a nucleotide sequence that encodes the light chain of the antibody according to claim 20.

26. (Canceled)

27. (Previously presented) A host cell transformed with the nucleic acid according to claim 24.

28-30. (Canceled)

31. (Original) An isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120.

32. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said antibody or antigen-binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1_{SF162} gp120.

33. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said antibody or antigen binding portion thereof has HIV-1_{SF162} neutralizing activity.

34. (Canceled)

35. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein the human antibody is a human monoclonal antibody.

36. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said human antibody binds to at least three CCR5 Clade B HIV-1 gp120 proteins.

37. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said human antibody binds to a peptide consisting of the sequence of SEQ ID NO: 4.

38. (Previously presented) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said human antibody, wherein said antibody does not bind to a gp120 of HIV-1 IIIB, HBX2, HBX2d or BH10.

39. (Previously presented) A hybridoma cell line designated 8.22.2 and having ATCC Accession Number PTA-4007.

40. (Original) A human antibody produced by the hybridoma cell line according to claim 39, or antigen-binding portion thereof.

41. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said antibody or antigen-binding portion thereof competes with the antibody according to claim 40 for binding to an antigen bound by the antibody according to claim 40.

42. (Canceled)

43. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 35, wherein said human monoclonal antibody comprises a heavy chain of the antibody according to claim 40.

44. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 35, wherein said human antibody comprises a heavy chain CDR1, CDR2 and CDR3 from the antibody according to claim 40.

45. (Original) A nucleic acid molecule comprising a nucleotide sequence that encodes the heavy chain of the antibody according to claim 40.

46. (Original) A nucleic acid molecule comprising a nucleotide sequence that encodes the light chain of the antibody according to claim 40.

47. (Canceled)

48. (Original) A host cell transformed with a nucleic acid according to claim 45.

49-51. (Canceled)

52. (Previously presented) The isolated human antibody or antigen-binding portion thereof according any one of claims 1 or 31, wherein the antibody or portion thereof has HIV-1 neutralizing activity *in vivo*.

53. (Original) The isolated human antibody or antigen-binding portion thereof according to any one of claims 1 or 31, wherein said antibody has neutralizing activity for more than one primary isolate of HIV-1.

54. (Canceled)

55. (Original) The isolated human antibody or antigen-binding portion thereof according to any of claims 53, wherein said more than one primary isolate of HIV-1 are members of more than one clade.

56. (Original) An isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said

antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

57. (Original) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 56, wherein said V3 region is the V3 region of HIV-1 SF162 gp120.

58. (Previously presented) A hybridoma cell line selected from the group consisting of: cell line 8.27.3 (ATCC Accession Number PTA-3009) and cell line 8E11/A8 (ATCC Accession Number PTA-4012).

59. (Original) The human antibody produced by a hybridoma cell line according to claim 58, or antigen-binding portion thereof.

60. (Canceled)

61. (Original) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 56, wherein said human antibody comprises a heavy chain CDR1, CDR2 and CDR3 from the antibody according to claim 59.

62. (Original) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 56, wherein said antibody comprises a heavy chain of a human antibody according to claim 59.

63. (Original) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 56, wherein said antibody or antigen-binding portion thereof competes with a human antibody according to claim 59 for binding to an antigen bound by said antibody according to claim 59.

64. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 56, wherein said antibody has HIV-1 neutralizing activity.

65. (Original) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 64, wherein said antibody has HIV-1 SF162 neutralizing activity.

66. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 64, wherein the antibody or portion thereof has HIV-1 neutralizing activity *in vivo*.

67. (Original) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 64, wherein said antibody has neutralizing activity for more than one primary isolate of HIV-1.

68. (Original) The isolated human antibody or antigen-binding portion thereof according to claim 67, wherein said for more than one primary isolate of HIV-1 are members of more than one clade.

69. (Original) The isolated human antibody or antigen-binding portion thereof according to any one of claims 1, 31 or 56, wherein said antibody or portion thereof inhibits the binding of HIV-1 gp120 to human CXCR4 receptor.

70. (Original) The isolated human antibody or antigen-binding portion thereof according to any one of claims 1, 31 or 56, wherein said antibody or portion thereof inhibits the binding of HIV-1 gp120 to human CCR5 receptor.

71. (Original) A nucleic acid molecule comprising a nucleotide sequence that encodes the heavy chain of the antibody according to claim 59.

72. (Original) A nucleic acid molecule comprising a nucleotide sequence that encodes the light chain of the antibody according to claim 59.

73. (Canceled)

74. (Original) A host cell transformed with a nucleic acid according to claim 71.

75-77. (Canceled)

78. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according any one of claims 16, 35 or 56, wherein the antibody or portion thereof is an immunoglobulin G (IgG), an IgM, an IgE, an IgA or an IgD molecule, or is derived therefrom.

79-84. (Canceled)

85. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody or portion thereof is labeled.

86-87. (Canceled)

88. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 85, wherein the label is selected from the group consisting of a radiolabel, an enzyme label, a toxin and a magnetic agent.

89. (Canceled)

90. (Original) The isolated antigen-binding portion thereof according to any one of claims 1, 31 or 56, wherein said antigen-binding fragment is an Fab fragment, an F(ab')₂ fragment or an F_V fragment.

91. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody is a single chain antibody.

92-93. (Canceled)

94. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody is a chimeric antibody.

95-96. (Canceled)

97. (Previously presented) The chimeric antibody according to claim 94, wherein the chimeric antibody comprises framework regions and CDR regions from different human monoclonal antibodies.

98-101. (Canceled)

102. (Previously presented) The chimeric antibody according to claim 94, wherein the chimeric antibody is bispecific.

103. (Canceled)

104. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody or portion thereof is derivatized.

105-106. (Canceled)

107. (Previously presented) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 104, wherein the antibody or portion thereof is derivatized with polyethylene glycol, at least one methyl or ethyl group or at least one carbohydrate moiety.

108. (Canceled)

109. (Previously presented) A composition comprising an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3

region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9, and a pharmaceutically acceptable carrier.

110. (Previously presented) The composition according to claim 109 further comprising one or more additional therapeutic agents.

111. (Original) The composition according to claim 110, wherein said one or more additional therapeutic agents are selected from the group consisting of: anti-viral agents, immunomodulators and immunostimulators.

112. (Previously presented) A kit comprising a container comprising an isolated human antibody or antigen-binding portion thereof selected from the group consisting of
an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9, and a pharmaceutically acceptable carrier therefor.

113. (Canceled)

114. (Previously presented) The kit according to claim 112, further comprising another anti-viral agent, an immunomodulator or an immunostimulator, or any combination thereof.

115. (Previously presented) A method for treating a subject with an HIV-1 infection comprising the step of administering an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion

thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

116. (Previously presented) A method for preventing or inhibiting HIV-1 infection in a subject comprising the step of administering an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3

region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

117. (Canceled)

118. (Previously presented) A method for inhibiting HIV-1 virus binding to a T cell comprising the step of contacting said virus with an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

119. (Previously presented) A method for inhibiting HIV-1 virus infection of a T cell comprising the step of contacting said virus with an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

120. (Previously presented) A method of inhibiting HIV-1 gp120-mediated binding comprising the step of contacting a gp120-expressing HIV-1 virus with an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen-binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

121. (Previously presented) The method according to any one of claims 115 or 116, further comprising the step of administering one or more additional therapeutic agents.

122. (Original) The method according to claim 121, wherein said one or more therapeutic agents are selected from the group consisting of: anti-viral agents, immunomodulators and immunostimulators.

123. (Previously presented) The method according to any one of claims 115 or 116, wherein said administering step is performed via an intravenous, subcutaneous, intramuscular, oral, pulmonary inhalation, transdermal or parenteral route.

124-132. (Canceled)

133. (Original) A method for identifying a region of HIV-1 gp120 for use as an HIV-1 vaccine comprising the steps of:

- a) producing in a non-human mammal a human monoclonal antibody and isolating said human monoclonal antibody that binds gp120 and that has neutralizing activity for HIV-1; and
- b) identifying an epitope on said gp120 that is bound by said antibody.

134. (Canceled)

135. (Previously presented) An isolated cell line that produces an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), cell line 8E11/A8 (ATCC Accession Number PTA-

4012), and cell line 8.27.3 (ATCC Accession Number PTA-3009), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes an epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

136. (Original) The cell line according to claim 135 that is a hybridoma.

137. (Previously presented) The cell line according to claim 136 that produces an antibody selected from the group consisting of 35D10/D2, secreted by a hybridoma designated by ATCC Accession Number PTA-3001, 40H2/C7, secreted by a hybridoma designated by ATCC Accession Number PTA-3006, 43A3/E4, secreted by a hybridoma designated by ATCC Accession Number PTA-3005, 43C7/B9, secreted by a hybridoma designated by ATCC Accession Number PTA-3007, 45D1/B7, secreted by a hybridoma designated by ATCC Accession Number PTA-3002, 46E3/E6, secreted by a hybridoma designated by ATCC Accession Number PTA-3008, 58E1/B3 secreted by a hybridoma designated by ATCC Accession Number PTA-3003, 64B9/A6, secreted by a hybridoma designated by ATCC Accession Number PTA-3004, 8E11/A8 secreted by a hybridoma designated by ATCC Accession Number PTA-4012, 8.27.3, secreted by a hybridoma designated by ATCC Accession Number PTA-3009 and 8.22.2, secreted by a hybridoma designated by ATCC Accession Number PTA-4007.

138. (Original) A non-human mammal expressing a human antibody that specifically binds HIV-1 gp120.

Application No. 10/628,004
Response dated June 14, 2007
In Response to December 14, 2006 Office Action

139. (Previously presented) The human antibody according to claim 1 that competes with an antibody according to claim 20 for binding to an antigen bound by an antibody according to claim 20.